SCIENCE ABSTRACTS.

SECTION A.—PHYSICS.

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ERRATA.

Section A.—PHYSICS.

Abstract No. 493, line 1 : *for* Neeson, *read* Neesen.
Abstract No. 556, line 1 : *for* Delphini, *read* Delphini.
line 3 : *for* $\delta = -11° 02'$, *read* $\delta = +11° 02'$.
Abstract No. 557, line 3 : *for* $\delta = 47° 39'$, *read* $\delta = +47° 39'$.
Abstract No. 606, line 2 : *for* Davies, *read* Davis.
Abstract No. 640, line 6 from end : *for* Stephan, *read* Stefan.
Abstract No. 930, line 19 : *for* E. W. Aston, *read* F. W. Aston.
Abstract No. 966, line 22 : *for* Sommerfield, *read* Sommerfeld ; p. 381, line 2 from end : *for* Parsons, *read* Parson.
Abstract No. 1109, line 2 : *for* T. Jeffries, *read* Z. Jeffries.
Abstract No. 1116, p. 442, line 8 : *for* Cortis, *read* Curtis.
Abstract No. 1124, line 4 : *for* form-vector, *read* four-vector.
Abstract No. 1129, p. 448, line 11 from end : *for* reversible, *read* irreversible.
Abstract No. 1172, line 4 : *for* Vollmer, *read* Voltmer, and *for* 879, *read* 897.
Abstract No. 1189, p. 470, line 1 : *for* June, *read* July.
Abstract No. 1228, p. 485, line 13 : *for* W. W. B., *read* A. B. W.
Abstract No. 1235, line 2 : *for* hydronamical, *read* hydrodynamical.
Abstract No. 1236, line 6 : *for* Botzmann, *read* Boltzmann.
Abstract No. 1255, line 10 : *for* Gills', *read* Gill's.
Abstract No. 1279, line 7 : *for* Rubinowitz, *read* Rubinowicz.
Abstract No. 1307, line 16 : *for* Van der Waals, *read* van der Waals.
Abstract No. 1597, line 6 : *for* Cortis, *read* Curtis.
Abstract No. 1623, line 2 : *for* Block, *read* Bloch ; also *for* 1920, *read* 1919.

CORRIGENDUM AND ADDENDUM.

Abstract No. 732 : *read* also Phys. Math. Soc. Japan, Proc. 2. pp. 136–138, June, 1920.

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ABSTRACTORS

LIST OF JOURNALS & ABBREVIATIONS USED THEREFOR

Abbreviation.	Full Title.
Accad. Lincei, Atti	Atti della Reale Accademia dei Lincei, Roma.
Accad. Sci. Torino, Atti	Atti della Reale Accademia delle Scienze di Torino.
Aircraft Engineering	Aircraft Engineering.
Akad. Wiss. Wien, Ber.	Sitzungsberichte der Akademie der Wissenschaften, Wien, Mathematischnaturwissenschaftliche Klasse.
Am. Acad., Proc.	Proceedings of the American Academy of Arts and Sciences.
Am. Chem. Soc., J.	Journal of the American Chemical Society.
Am. Electrochem. Soc., Trans.	Transactions of the American Electrochemical Society.
Am. Illum. Eng. Soc., Trans.	Transactions of the American Illuminating Engineering Society.
Am. I.E.E., J.	Journal of the American Institute of Electrical Engineers.
Am. Inst. Mining Eng., Bull.	Bulletin of the American Institute of Mining Engineers (now Mining and Metallurgy).
Am. J. Sci.	American Journal of Science.
Am. Phil. Soc., Proc.	Proceedings of the American Philosophical Society.
Am. Soc. for Testing Mat.	American Society for Testing Materials.
Am. Soc. Mech. Eng., J.	Journal of the American Society of Mechanical Engineers (now Mechanical Engineering).
Ann. de Physique	Annales de Physique.
Ann. d. Physik	Annalen der Physik.
Annales des Postes, Télé.	Annales des Postes, Télégraphes et Téléphones.
Arch. d'El. Médicale	Archives d'Électricité Medicale.
Arch. des Sciences	Archives des Sciences Physiques et Naturelles, Genève.
Archiv f. Elektrot.	Archiv für Elektrotechnik.
Ark. f. Mat. Astron. och Fysik, Stockholm	Arkiv för Matematik, Astronomie och Fysik, Stockholm.
Assoc. Ing. El. Liége, Bull.	Association des Ingénieurs Électriciens, Bulletin, Institut Electrotechnique Montefiore, Liége.
Astron. J.	Astronomical Journal.
Astron. Nachr.	Astronomische Nachrichten.
Astron. Soc. Pacific, Publ.	Publications of the Astronomical Society of the Pacific.
Astronomie	L'Astronomie.
Astrophys. J.	Astrophysical Journal.
Automotor J.	Automotor Journal.
Bureau of Mines, Techn. or Sci. Papers	Technical or Scientific Papers of the Bureau of Mines (U.S. Department of the Interior).
Bureau of Standards, Bull.	Bulletin of the Bureau of Standards, Washington.
Cambridge Phil. Soc., Proc.	Proceedings of the Cambridge Philosophical Society.
Cambridge Phil. Soc., Trans.	Transactions of the Cambridge Philosophical Society.
Canad. Elect. News	Canadian Electrical News.
Chem. and Met. Eng.	Chemical and Metallurgical Engineering.
Chem. News	Chemical News and Journal of Physical Science.
Chem. Soc. J., Trans.	Journal and Transactions of the Chemical Society of London.
Comptes Rendus	Comptes Rendus Hebdomadaires des Séances de l'Academie des Sciences.
Elect. J.	Electric Journal.
Electrician	The Electrician.
Electricien	L'Électricien.

Abbreviation.	Full Title.
Elek. u Maschinenbau	Elektrotechnik und Maschinenbau.
Elekt. Zeits.	Elektrotechnische Zeitschrift.
Elettricità, Milan	L'Elettricità, Milan.
Elettrotecnica	L'Elletrotecnica.
El. Rev.	The Electrical Review (London).
El. Rev., Chicago	The Electrical Review, Chicago.
El. Rly. J.	Electric Railway Journal.
El. Times	Electrical Times.
El. World	Electrical World.
Eng. Club Phil., J.	Journal of the Engineers' Club of Philadelphia.
Engineer	Engineer.
Engineering	Engineering.
Eng. News-Record	Engineering News-Record.
Faraday Soc., Trans.	Transactions of the Faraday Society.
Frank. Inst., J.	Journal of the Franklin Institute.
Gen. El. Rev.	General Electrical Review.
Illum. Eng., London	Illuminating Engineer.
Indian Assoc. for Cultivation of Science, Proc.	Proceedings of the Indian Association for Cultivation of Science.
Inst. El. Eng., J.	Journal of the Institution of Electrical Engineers.
Inst. Eng. and Shipbuilders, Trans.	Transactions of the Institution of Engineers and Shipbuilders in Scotland.
Inst. Mech. Eng., J.	Journal of the Institution of Mechanical Engineers.
Inst. Radio Eng., Proc.	Proceedings of the Institute of Radio Engineers.
Iron and Steel Inst., J.	Journal of the Iron and Steel Institute.
Jahrb. d. drahtl. Tele.	Jahrbuch der Drahtlosen Telegraphie und Telephonie.
Jahrb. d. Radioakt.	Jahrbuch der Radioaktivität und Elektrotonik.
J. de Physique et le Radium	Le Journal de Physique et le Radium.
J. Phys. Chem.	Journal of Physical Chemistry.
Journ. Télégraph.	Journal Télégraphique.
K. Akad. Amsterdam, Proc.	Proceedings of the Koninklijke Akademie van Wetenschappen te Amsterdam.
Kyoto Coll. Sci., Mem.	Memoirs of the College of Science, Kyoto Imperial University.
Kyushu Univ. Coll. Eng., Mem.	Memoirs of the Kyushu Imperial University College of Engineering.
La Plata Univ. Publ. [ser. fis. mat], [ser. tecn.]	Universidad Nacional de la Plata, Publicaciones.
Lick Observat., Bull.	Bulletin of the Lick Observatory.
Manchester Phil. Soc., Mem.	Memoirs and Proceedings of the Manchester Literary and Philosophical Society.
Meteorlog. Office, London, Prof. Notes	Professional Notes of the Meteorological Office, London.
Meteorolog. Zeits.	Meteorologische Zeitschrift.
Mining and Metallurgy	Bulletin of the American Institute of Mining and Metallurgical Engineers.
Monthly Weather Rev.	Monthly Weather Review.
Nat. Acad. Sci., Proc.	Proceedings of the National Academy of Sciences.
Nature	Nature.
N. Cimento	Nuovo Cimento.
New Zealand J. of Sci.	New Zealand Journal of Science and Technology.
Observatory	The Observatory.
Optical Soc. America, J.	Journal of the Optical Society of America.
Optical Soc., Trans.	Transactions of the Optical Society.
Phil. Mag.	Philosophical Magazine and Journal of Science.
Phot. J.	Photographic Journal.
Phys. Math. Soc. Japan, Proc.	Proceedings of the Physico-Mathematical Society of Japan.
Phys. Rev.	Physical Review.
Phys. Soc., Proc.	Proceedings of the Physical Society of London.
Phys. Zeits.	Physikalische Zeitschrift.
Power	Power.
Preuss. Akad. Wiss. Berlin, Ber.	Sitzungsberichte der Preussischen Akademie der Wissenschaften zu Berlin.

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Abbreviation.	Full Title.
Radio-Électricité	Radio-Électricité.
Radio Rev.	Radio Review.
Rev. de Mét.	Revue de Métallurgie.
Rev. Gén. d'El.	Revue Générale de l'Electricité.
Riv. Ottica e Meccan.	Rivista d'Ottica e Meccanica di Precisione.
Röntgen Soc., J.	Journal of the Röntgen Society.
Roy. Astron. Soc. Canada, J.	Journal of the Royal Astronomical Society of Canada.
Roy. Astron. Soc., M.N.	Monthly Notices of the Royal Astronomical Society.
Roy. Dublin Soc., Proc.	Proceedings of the Royal Dublin Society.
Roy. Irish Acad., Proc.	Proceedings of the Royal Irish Academy.
Roy. Meteorlog. Soc., J.	Quarterly Journal of the Royal Meteorological Society.
Roy. Soc. Canada, Trans.	Transactions of the Royal Society of Canada.
Roy. Soc. Edinburgh, Proc.	Proceedings of the Royal Society of Edinburgh.
Roy. Soc., Phil. Trans.	Philosophical Transactions of the Royal Society of London.
Roy. Soc., Proc.	Proceedings of the Royal Society of London.
Roy. Soc. Tasmania, Proc.	Proceedings of the Royal Society of Tasmania.
Roy. Soc. Victoria, Proc.	Proceedings of the Royal Society of Victoria.
Schweiz. Elektrot. Verein, Bull.	Bulletin des Schweizerischen Elektrotechnischen Vereins.
Smithsonian Misc. Coll.	Smithsonian Miscellaneous Collections.
Soc. Arts, J.	Journal of the Royal Society of Arts.
Soc. Franç. Elect., Bull.	Bulletin de la Société Française des Électriciens.
Soc. Spettros. Ital., Mem.	Memorie della Società degli Spettroscopisti Italiani.
Teleg. u. Fernspr. Techn.	Telegraphen und Fernsprech Technik.
Terrest. Magn.	Terrestrial Magnetism and Atmospheric Electricity.
Tôhoku Math. J.	Tôhoku Mathematical Journal.
Tôhoku Univ., Sci. Reports	Science Reports of the Tôhoku Imperial University.
Tokyo Univ. Coll. of Eng., J.	Journal of the Tokyo Imperial University College of Engineering.
T. S. F.	Télégraphie sans Fil: Revue Mensuelle de Radiotélégraphie et Radiotéléphonie.
Union Obs. S. Africa, Circ.	Circulars of the Union Observatory of South Africa.
Univ. of Illinois Eng. Exp. Sta., Bull.	Bulletin of the Engineering Experiment Station of the University of Illinois.
Washington Acad. Sci., J.	Journal of the Washington Academy of Sciences.
West. Soc. Eng., J.	Journal of the Western Society of Engineers.
Wireless Age	Wireless Age.
Zeits. anorg. Chem.	Zeitschrift für anorganische Chemie.
Zeits. Elektrochem.	Zeitschrift für Elektrochemie.
Zeits. f. Metalkunde	Zeitschrift für Metalkunde (formerly Internationale Zeitschrift für Metallographie).
Zeits. f. Physik	Zeitschrift für Physik.
Zeits. Instrumentenk.	Zeitschrift für Instrumentenkunde.
Zeits. Instrumentenk., Beib.	Deutsche-Mechaniker-Zeitung. Beiblatt zur Zeitschrift für Instrumentenkunde.
Zeits. techn. Physik.	Zeitschrift für technische Physik.
Zeits. Vereines deutsch. Ing.	Zeitschrift des Vereines deutscher Ingenieure.
Zeits. wiss. Phot.	Zeitschrift für wissenschaftliche Photographie, Photophysik und Photochemie.

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